



National Aeronautics and  
Space Administration  
**Lyndon B. Johnson Space Center**  
Houston, Texas



## Exploration marathon

STS-78 crew returns home with a mountain of data for JSC and other scientists. Story on Page 3.



## Where's the dressing?

JSC harvests lettuce grown in pressure equivalent to 10,000 feet that may be used for life support. Photo on Page 4.

# Space News Roundup

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## Employee Express goes on line

The new Employee Express—a system that gives civil service employees the ability to process payroll transactions over the phone—is now operational and employees will be receiving their personal identification numbers this month.

Employees will be able to access Employee Express from a touch tone phone at work (912) 757-3169 or from home 1-800-571-3453 and change certain payroll deductions automatically. Pamphlets with a cut out pocket card were mailed out through the JSC mail distribution system this week to give employees a better overview of how the system works and PIN numbers will begin to be mailed out to employees' home addresses the week of July 8.

"Implementation of systems such as Employee Express are helping us to overhaul the way we do business," said Wayne Draper, JSC's chief financial officer. "Employee Express demonstrates that we're on our way to providing employees with automated customer-service applications."

Employees will be able to change federal and state tax withholding, direct deposit of net pay, financial allotments, home address and PIN numbers without having to fill out forms and forwarding information to the appropriate office. The system was developed by an interagency task force chartered under the Office of Personnel Management.

"This is the first phase of a two-phase program," said John Beall, chief of JSC's Financial Management Division. "Phase 2 potentially includes the capabilities to modify health benefits, thrift savings plan, savings bonds, combined federal campaign contributions and county and city taxes."

For details on this system call the JSC Payroll Office at x34832.



JSC Photo by Benny Benavides

Children exploring the new Kids Space Place this week take the opportunity to use the second floor escape hatch with a helpful hand from "Gazer." The hatch, a circular two-story slide, is one way kids can return from missions on the second floor of Space Center Houston's newest attraction. Space Center Houston will host a JSC night next Friday to give JSC employees and their families an opportunity to explore the latest addition to the visitor's center.

## SCH hosts JSC night next week

By Natasha Calder

Space Center Houston is opening its doors for JSC employees, contractors, families and friends from 5-9 p.m. next Friday to offer them a first-hand look at the newest attraction, "Kids' Space Place."

This new addition, the first since SCH's opening in 1992, gives children and adults a hands-on learning experience through interactive exhibits and exercises, allowing them to explore different aspects of space exploration and the human space flight program.

"With the addition of Kids' Space Place,

Space Center Houston opens up the excitement of the space program to those who will guarantee its future—the children. In each and every activity area, the kids not only will have fun, but also will learn about space exploration and basic science and math concepts in a hands-on, user friendly atmosphere," said Richard Allen, Space Center Houston's general manager.

"We are doing NASA night because we want to share the newest attraction of Space Center Houston with NASA employees, so that they may share the experience of space

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## Atlantis rolling back against Bertha threat

By James Hartsfield

*Atlantis*, being readied for STS-79, was moved off the launch pad early Wednesday and rolled back to the Vehicle Assembly Bldg. due to the threat posed by Hurricane Bertha to Kennedy Space Center.

By mid-day Wednesday, Bertha was a Category 3 hurricane with sustained winds of 105 miles per hour. The hurricane was forecast to miss KSC and turn north toward the open Atlantic and middle East Coast, but, by Wednesday morning, it was continuing a track toward the Florida coast.

Although *Atlantis* could remain on schedule toward a launch of STS-79 on July 31 despite being moved back to the VAB, shuttle managers are continuing an evaluation of sooting found during STS-78 post-flight inspections of the solid rocket boosters' interior J-joints.

The J-joints are where rubber insulation on the interior of the solid rocket casings meets at each of the three field joints. Inspections of the STS-78 boosters found the rubber insulation charred in places and soot reaching near the actual field joint and the capture-feature O-ring. No gas leaked past the joint, and no damage was done to the capture feature O-ring, the first of three O-rings in each joint.

Although the J-joint was not designed to seal against pressure, it has always done so. One suspect is a new, water-based cleaner and adhesive used to coat the J-joint before the boosters are assembled. The water-based adhesive was used for the first time on STS-78, replacing a methyl-based adhesive that is no longer manufactured. The same new adhesive was used on STS-79's booster rockets.

Managers did opt to begin stacking the solid rocket boosters for STS-80 as quickly as possible, using supplies of the old adhesive that are still in stock at KSC. The STS-80 boosters could be used for STS-79 if it is decided to disassemble the current STS-79 boosters.

A final decision on the J-joint issue and the launch of STS-79 is not expected before early next week. If the schedule holds, *Atlantis* will lift off at 10:29 a.m. CDT July 31.

The crew—except for Mission Specialist John Blaha—will spend 8 days, 20 hours and 35 minutes in orbit. On arrival at Mir, Blaha will begin a work tour of four months as a cosmonaut researcher. Readdy, Blaha, Pilot Terry Wilcutt, and Mission Specialists Tom Akers, Jay Apt and Carl Walz, are scheduled to participate in a final countdown rehearsal next week.

## Lucid to break U. S. record of longest space flight Monday

Mir 21 Cosmonaut-Researcher Shannon Lucid is closing in on the record for the longest single space flight by a U.S. astronaut while science investigations continue on the Russian Mir Space Station.

Monday, Lucid will surpasses the U.S. record of 115 days in space, which was set last year by astronaut Norm Thagard as a member of the Mir 18 crew.

Meanwhile, Lucid and her crewmates, Mir 21 Commander Yuri Onufrienko and Flight Engineer Yuri Usachev, continue work with experiments and payloads aboard Mir.

The majority of the work done this week focused on the effects of the Mir station environment on various experiments and the search for possible ways to work around some of those influences. The crew continued using the Space Acceleration Measurement System unit to record what effect station operations are having on those experiments.

A Technical Evaluation of the Microgravity Isolation Mount, designed to try and minimize the acceleration effects experienced on the station so that delicate microgravity work can be performed, also was planned for this week.

Other tests included a neurological evaluation, done periodically during the Mir 21 flight as part of the Anticipatory Postural experiment, to monitor any alterations in a person's motor functions due to long-duration space flight, and more processing of the Candle Flame in Microgravity sample set done last week. The CFM work being done on Mir is similar to the work done on the space shuttle and involves studying a flame in a weightless environment.

Lucid was informed this week by the NASA operational team in the Russian Mission

Control Center of the sooting found in the J-seals of the solid rocket boosters used in the STS-78 launch. Lucid's return to Earth, which is planned for Aug. 9, will depend on whether the phenomenon is seen as a threat to *Atlantis'* planned July 31 launch.

Last week saw the completion of the Queen's University Experiment in Liquid Diffusion after the remaining four samples, which did not process properly on the first attempt, were re-processed successfully over the weekend.

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## Columbia sets record for longest shuttle flight

By Karen Schmidt

*Columbia* glided into Kennedy Space Center at 7:37 a.m. CDT Sunday after traveling more than seven million miles in space and setting a record for the longest shuttle flight so far.

Commander Tom Henricks, Pilot Kevin Kregel, Mission Specialists Susan Helms, Rich Linnehan and Chuck Brady and Payload Specialists Jean-Jacques Favier and Bob Thirsk returned to Earth with a record 16 day, 21 hour and 48 minute flight. *Columbia* surpassed the previous record set on STS-67 aboard *Endeavour* in March 1995 of 16 days, 15 hours and 9 minutes.

JSC Director George Abbey joined the crew's friends and co-

workers in welcoming the STS-78 crew back late Sunday.

"This mission really paved the way for space station," Abbey said. "It was a record setting flight, we had an international crew and I know it takes a lot of people to make a mission but it takes a great crew to make it all come together."

Henricks praised his crew's hard work throughout the record setting flight.

"We are glad to be back," Hendricks said. "Seventeen days sounds like a long time. I'm sure it seemed like forever for the folks in the MCC, but to us the time flew by. We had a crew that was not eager to come home. We worked real hard

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JSC Photo by Benny Benavides

JSC Director George Abbey, left, welcomes home STS-78 Commander Tom Henricks and his crew mates Sunday after setting a record for the longest shuttle flight.

## Career Plus program extended

The Careers Plus+ Retirement Incentive Program, which was designed to give retirement-eligible civil servants more options to consider when making career decisions, is extending its deadline.

Human Resources personnel report the program—now in its fifth month—has had positive feedback from retirement-eligible employees, both those who have chosen to take advantage of Careers Plus+ and those who have not.

"Because of the current legislative uncertainty about buyouts and because we want employees to have as much information as

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